Mas-Ship at 2017 UN Conference in Bonn

8th November 2017

India is at the brink of unprecedented economic, urban and demographic transition. It is estimated that two-thirds of the country's commercial and high rise building stock will be built by 2030. The path dependency resulting from the long lifespans of these new buildings makes the risk of carbon lock-in higher in India than anywhere else in the world.

Indian delegation participated in the 23rd Conference of Parties (COP-23) to the United Nations Framework Convention on Climate Change (UNFCCC) in Bonn. In line with India's commitments to the Paris Agreement, challenges, opportunities and the potential of Indian residential building sector in carbon emission mitigation were presented. Also, government actions and technologies which reduce carbon emissions while maintaining long-term development goals were given advantage. Also, the discussions included defining the role of building materials and construction technologies in developing sustainable, affordable, and resilient buildings and mainstreaming sustainable housing for all.

Mr Sanjay Seth, Senior Fellow and Senior Director at TERI set the context of buildings in India, central to the country's development and climate change agenda, with their importance extending well beyond national borders. India's INDC (under the Paris Agreement) targeted a 33% - 35% reduction in carbon emissions intensity per GDP from 2005 to 2030, while the national Sustainable Development Goal Target 11.1 states: "*By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums*".

Building sector is a major consumer of resources, accounting for nearly 40% of the global carbon emissions. It is an imperative therefore that the interventions which streamline resource efficiencies in this sector take place, considering the aspirations of the user group. Recalling the partnership with TERI, Mr Mark Radka, Chief Energy & Climate Branch (UN Environment) emphasised that the building construction sector will have to provide technological solutions while keeping in mind the lifestyle and cultural aspirations of inhabitants. While presenting specifically on the initiatives to mainstream sustainability and affordability in the built environment, Mr Sanjay Seth mentioned challenges and opportunities the sector provided in terms of technology and material interventions, including implications of cost related thereon.

Ministry of Housing and Urban Affairs (BMTPC) was given a role to bring innovation and paradigm shift in prevailing construction practices, in order to fast-track delivery of houses without compromising structural and functional requirements, as a support the endeavour of the Government of India. BMTPC initiated identifying, evaluating and certifying new emerging construction systems which can support the increase in speed, safety, and sustainability of the construction sector.

Professor Rajat Gupta (Oxford Brookes University) presented *Mainstreaming Sustainable Social Housing in India (MaS-SHIP)* project complementing the efforts of the Ministry of Housing and Urban Affairs in their agenda of providing sustainable housing for all. MaS-SHIP is being implemented by the four consortium partners; Oxford Brookes University, The Energy and Resources Institute (TERI), Development Alternatives and UN-Habitat. Objective of the project is to develop a Sustainability Index (SI) in order to identify a selection of technologies on the basis of 15 attributes, covering various aspects of sustainability, costs and social benefits. It was highlighted that the comprehensive list of easy-to-implement set of 15 attributes has been derived from the 2015 BMTPC report on *'Multi- Attribute Evaluation Methodology for Selection of Emerging Housing Technologies'*.

Ms Megha Behal, Research Associate at TERI, stressed the need for developing Sustainability Index complemented with a Decision Support Tool, in order to enable a comparative assessment of trade-offs between different green building materials and construction technologies. The underlying principles of the MaS-SHIP project would support building practitioners for providing evidence based solutions based on geography, climate, culture and economy.

Mr Santosh Kumar, Chief Conservator of Forest, and Director, (Environment & Renewable Energy, UT of Chandigarh presented Chandigarh as a case study example of a green, smart and solar city.